

Amendment

1. (Amended) A low-voltage micro electrical mechanical (MEM) switch, the low-voltage MEM switch comprising:

a contact bridge having and impedance of about 50 Ohms;

first and second microstrips, each microstrip having an impedance of about 50 Ohms, the first microstrip being electrically isolated from the second microstrip;

a cantilever arm supporting the contact bridge, the cantilever arm having an end portion, an open state, and a closed state, the contact bridge being spaced from the microstrip at a distance of about 12 μm or greater when the cantilever arm is in the open state and the contact bridge providing electrical communication between the first and second microstrips when the cantilever arm is in the closed state;

an electrically conductive coil opposing the first end, wherein the electrically conductive coil moves the cantilever arm from the open state to the closed state when a voltage of about 5 Volts or less are applied across the electrically conductive coil; and

a housing enclosing the cantilever arm, first and second microstrips, and electrically conductive coil, the housing having a height of about 4 mm or less, and the housing not being hermetically sealed.

2. (Amended) A low-voltage micro electrical mechanical (MEM) switch, the low-voltage MEM switch comprising:

a cantilever arm having first and second end portions;

a contact bridge connected to the cantilever arm and positioned between the first and second end portions, the contact bridge having an impedance;
first and second microstrips, the first microstrip being electrically isolated from the second microstrip, the first and second microstrips having substantially the same impedance as the contact bridge; and
an electrically conductive coil opposing the first end, wherein the electrically conductive coil moves the cantilever arm between an open state and a closed state, the contact bridge providing electrical communication between the first and second microstrips when in the closed state.

3. (Amended) The low-voltage MEM switch of claim 2 wherein the distance between the contact bridge and the first and second microstrips when the MEM switch is in an open state is about 12 μm or greater.
4. (Amended) The low-voltage MEM switch of claim 3 wherein the distance between the contact bridge and the first and second microstrips when the MEM switch is in an open state is in the range of about 12 μm and about 2 mm.
5. (Amended) The low voltage MEM switch of claim 3 wherein the cantilever arm, contact bridge, first and second microstrips, and electrically conductive coil are enclosed in a housing, and the housing is not hermetically sealed.
6. (Amended) The low voltage MEM switch of claim 3 wherein the cantilever arm, first and second microstrips, and electrically conductive coil are enclosed in a housing, the housing having a depth of about 4 mm or less.
7. (Amended) The low-voltage MEM switch of claim 6 wherein the cantilever arm, first and second microstrips, and electrically conductive coil are enclosed in a housing, the

housing having a first lateral dimension of about 4 mm or less and a second lateral dimension of about 4 mm or less.

8. (Amended) The low-voltage MEM switch of claim 6 wherein:

the housing includes a substrate and a cover; and

the cantilever arm, first and second microstrips, and electrically conductive coil are mounted on a substrate and positioned underneath the cover.

9. (Amended) The low-voltage MEM switch of claim 8 wherein the substrate is formed from a laminate and the first and second microstrips are is mounted directly on the substrate.

10. (Original) The low-voltage MEM switch of claim 2 wherein the coil is energized and moves the cantilever arm between the open and closed states when the coil is energized with a signal having a voltage of about 5 Volts or less.

11. (Original) The low-voltage MEM switch of claim 2 wherein the coil is energized and moves the cantilever arm between the open and closed states when the coil is energized with a signal having a current of about 10 mA or less.

12. (Amended) The low-voltage MEM switch of claim 2 wherein the first and second microstrips and the contact bridge form a transmission path having [has] an impedance of about 50 Ohms when the cantilever arm is in the closed state.

13. (Original) The low-voltage MEM switch of claim 2 wherein the contact bridge is formed from an electrically conductive material attached to the cantilever arm.

14. (Original) The low-voltage MEM switch of claim 2 wherein the cantilever arm is formed at least in part with an electrically conductive material, and the cantilever arm forms the contact bridge.

15. (Amended) A low-voltage micro electrical mechanical (MEM) switch, the low-voltage MEM switch comprising:

a cantilever arm having a contact bridge;

first and second microstrips, the first microstrip being electrically isolated from the second microstrip, the first and second microstrips and contact bridge having substantially the same impedance; and

means for moving the cantilever arm between a first position wherein the first and second microstrips and contact bridge form a closed circuit and a second position wherein the microstrips form an open circuit.

16. (Original) The low-voltage MEM switch of claim 15 wherein the means for moving the cantilever arm includes an electrical coil, the coil opposing the cantilever arm.

17. (Original) The low-voltage MEM switch of claim 16 wherein the coil is formed with wire that is 25 μm gauge or smaller.

18. (Original) The low-voltage MEM switch of claim 17 wherein the arm has first and second ends, the coil is positioned adjacent the first end, and the cantilever arm rotates around the second end.

19. (Previously Cancelled)

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